WHAT IS CLAIMED IS:

1. An image forming apparatus for outputting an image based on inputted image data, said apparatus comprising:

reading means for reading an image and generating image data;

creation means for creating a correction table for correcting the density characteristics of the image data;

correction means for correcting the density characteristics of the image data from said reading means, based on the correction table created by said creation means; and

output means for outputting an image based on the image data corrected by said correction means;

wherein said creation means creates the correction table based on data generated by said reading means by reading plural gradient patterns outputted by said output means, and the plural gradient patterns outputted by said output means are disposed in point symmetry with respect to a center position of the image.

2. The image forming apparatus according to claim 1, wherein said gradient pattern is composed of plural density patches.

3. The image forming apparatus according to claim 1, wherein said creation means determines a train of density data based on an average value of the plural brightness data obtained by said plural gradient patterns and applies an interpolating process and a smoothing process to said density data train thereby creating said correction table.

4. An image forming apparatus for outputting an image based on inputted image data, said apparatus comprising:

reading means for reading an image and generating image data;

memory means for storing plural correction tables for correcting the density characteristics of image data;

selection means for selecting a correction table suitable for correction from said memory means;

correction means for correcting the density characteristics of the image data from said reading means, based on the correction table selected by said selection means; and

output means for outputting an image based on the image data corrected by said correction means;

wherein said selection means selects the correction table based on data generated by said reading means by reading plural gradient patterns outputted by said

output means, and the plural gradient patterns outputted by said output means are disposed in point symmetry with respect to a center position of the image.

5. The image forming apparatus according to claim 4, wherein said gradient pattern is solely composed of a patch of a maximum density.

6. The image forming apparatus according to claim 4, wherein said selection means selects said correction table according to a density value determined from the average of plural brightness data obtained by reading the maximum density patches of plural gradient patterns.

7. A control apparatus connected to an image forming apparatus capable of correcting image data generated by reading an image and outputting an image based on the corrected image data, and adapted for controlling the density correction by said image forming apparatus, the control apparatus comprising:

memory means for storing image data for outputting a test image;

output control means for controlling said image forming apparatus so as to output a test image based on the image data stored in said memory means;

reading control means for causing said image forming apparatus to read the test image outputted by said image forming apparatus, thereby generating image data;

creation means for creating a correction table for correcting the density characteristics of said image forming apparatus, based on image data obtained from the test image read by said image forming apparatus; and

setting means for setting the correction table created by said creation means, as the correction table to be used by said image forming apparatus;

wherein said memory means stores image data for outputting a test image in which plural gradient patterns are disposed in point symmetry with respect to the center position of the image.

8. A control apparatus connected to an image forming apparatus capable of correcting image data generated by reading an image and outputting an image based on the corrected image data, and adapted for controlling the density correction by said image forming apparatus, the control apparatus comprising:

first memory means for storing image data for outputting a test image;

second memory means for storing a correction table for correcting the density characteristics of said

image forming apparatus;

output control means for controlling said image forming apparatus so as to output a test image based on the image data stored in said first memory means;

reading control means for causing said image forming apparatus to read the test image outputted by said image forming apparatus, thereby generating image data;

selection means for selecting, from said second memory means, a correction table suitable for correcting the density characteristics of said image forming apparatus, based on image data obtained from the test image read by said image forming apparatus; and

setting means for setting the correction table created by said creation means, as the correction table to be used by said image forming apparatus;

wherein said first memory means stores image data for outputting a test image in which plural gradient patterns are disposed in point symmetry with respect to the center position of the image.

9. A density correcting method for use in an image forming apparatus for correcting and outputting a read image, said method comprising:

a creation step of reading plural gradient patterns and creating a correction table for correcting the

density characteristics of the image data based on the read plural gradient patterns;

a correction step of correcting the read image utilizing the correction table created by said creation step; and

an output step of outputting an image corrected by said correction step;

wherein the plural gradient patterns for creaating said correction table are disposed in point symmetry with respect to a center position of the image.

10. The density correcting method according to claim 9, wherein said gradient pattern is composed of plural density patches.

11. The density correcting method according to claim 9, wherein said generation step determines a train of density data based on the average of plural brightness data obtained by reading said plural gradient patterns and applies an interpolating process and a smoothing process on said density data train to create said correction table.

12. A density correcting method for use in an image forming apparatus for correcting and outputting a read image, said method comprising:

a selection step of reading plural gradient

patterns and selecting a correction table for cirrecting the density characteristics of image data, based on said read plural gradient patterns;

a correction step of correcting the read image, utilizing the correction table selected by said selection step; and

an output step of outputting an image corrected by said correction step;

wherein the plural gradient patterns for selecting said correction table are disposed in point symmetry with respect to a center position of the image.

13. The density correcting method according to claim 12, wherein said gradient pattern is solely composed of a patch of a maximum density.

14. The density correcting method according to claim 12, wherein said selection step selects said correction table according to a density value determined from the average of plural brightness data obtained by reading the maximum density patches of plural gradient patterns.

15. A density correcting method utilizing a test chart and adapted for use in an image forming apparatus, said method comprising:

an output step of outputting a test chart; and

a detection step of detecting the condition of the image forming apparatus from said test chart;

wherein the test chart outputted by said output step is the test chart used by said detection step for detecting the condition of the image forming apparatus and is composed of plural gradient patterns which are disposed in a point symmetry with respect to a center position of the image.

16. A density correcting method for use in an image forming apparatus, utilizing a print paper on which a test image is printed, said method comprising:

a printing step of printing a test image on a print paper; and

a detection step of detecting the condition of the image forming apparatus from the test image printed on the print paper;

wherein the print paper on which the test image is printed by said printing step is the print paper for detecting the condition of the image forming apparatus in said detection step, and the test image printed on the print paper is composed of plural gradient patterns which are disposed in point symmetry with respect to a center position of the print paper.